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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/334,974	06/17/1999	DENNIS FOSTER	60.137-163; 115-3189-U	5932

26096 7590 02/26/2003

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EXAMINER
CANTELMO, GREGG

ART UNIT	PAPER NUMBER
1745	31

DATE MAILED: 02/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/334,974	Applicant(s) FOSTER ET AL.	
	Examiner Gregg Cantelmo	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 January 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,5,7-24,26-36 and 64-67* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,5,7-24,26-36 and 64-67* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Petition for Revival

1. Applicant's petition for revival has been granted. An action on the merits follows.

Response to Amendment

2. In response to the amendment received January 24, 2003:

   a. Claims 1, 2, 4, 5, 7-24, 26-36 and 64-67 are pending;

   b. The prior art rejection of claims stands as modified below;

   c. New grounds of rejection has been presented as applied to claims 1, 2, 4-5,7-24 and 26-36.

Claim Objections

3. Claim 64 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 64 recites providing a drying period for the article surface. Claim 1 recites that the article is subjected to pulses of air to dry the electroplated layer on the article. Thus claim 1 already recites providing a drying period for the article surface explicit in this step. Thus claim 64 fails to further limit the process of claim 1.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2, 4, 7-9 21-23, 26-28 and 64-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent No. 5,413,874 (Moysan '874) in view of European Patent Application No. 0 486 711 A1 (EP '711); all of record and for the reasons of record.

Moysan '478 is drawn to a process of depositing a multi layer coating on at least a portion of an article surface comprising: depositing by electroplating at least one metal or metal alloy containing layer 13 on at least a portion of said article surface, depositing by PVD on at least a portion of said electroplated layer at least one layer (22 or 24 in Fig. 1) comprising a material selected from the group consisting of refractory metals or refractory metal alloys as recited the genus of instant claim 1 (see col. 4, ll. 18-22 and col. 4, line 60 through col. 5, line 14 as applied to claim 1).

The electroplating comprises nickel (col. 2, ll. 13-15 as applied to claim 2).

The refractory metal layer can be zirconium, titanium or a zirconium-titanium alloy (col. 4, ll. 18-22 and col. 4, line 60 through col. 5, line 14 as applied to claim 4).

The refractory metal compound deposited on the nickel layer can also be a refractory metal alloy compound such as nitrides or oxides (col. 5, ll. 5-14 as applied to claim 7).

The compound can be zirconium nitride (col. 5, ll. 5-14 as applied to claim 8).

The compound can be zirconium nitride (col. 5, ll. 5-14 as applied to claim 9).

The electroplating comprises nickel (col. 2, ll. 13-15 as applied to claim 21).

The refractory metal, refractory metal alloy, refractory metal compound or refractory metal compound layer is deposited by PVD on at least a portion of said electroplated layer (see col. 4, ll. 18-22 and col. 4, line 60 through col. 5, line 14 as applied to claim 22).

The refractory metal layer can be zirconium, titanium or a zirconium-titanium alloy (col. 4, ll. 18-22 and col. 4, line 60 through col. 5, line 14 as applied to claim 23).

The refractory metal compound deposited on the nickel layer can also be a refractory metal alloy compound such as nitrides, carbides, carbonitrides, oxides etc. (col. 5, ll. 5-14 as applied to claim 26).

The refractory metal compound can be zirconium nitride (col. 5, ll. 5-14 as applied to claim 27).

The refractory metal compound can be zirconium nitride (col. 5, ll. 5-14 as applied to claim 28).

The differences between the instant claims and Moysan '874 are that Moysan '874 fails to explicitly disclose of a step of subjecting the plated layer to pulses of air to dry and clean the article surface (instant claim 1), of providing a drying period for the

article surface (claim 64), of the drying period being between 2 and 5 minutes (claim 65), of atomizing water droplets on the article surface during pulse drying (claim 66), of one pulse of air being generated per square centimeter of article surface (claim 67).

With respect to claims 1 and 64:

EP '711 discloses of a procedure for blowing off liquid from an object by using pulsating compressed air to dispel the liquid (abstract). This reference particularly teaches that this process is advantageously used in plating processes such as electroplating (page 5 of translation) to remove and recover electrolytes and further to provide a "spot-free" dryness, i.e., that no drops or traces of drops remain on the dried objects. Upon removing the unused electrolytes, the object will also be cleaned (as applied to claims 1 and 64).

The timeliness of dry cleaning would have obviously been immediately after deposition of the electroplated layer and prior to any further depositions to clean and dry the surface and recover and unplated electrolytes on the surface.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Moysan '874 by incorporating the pulsed air process of EP '711 since it would have provided a means to remove and recover excess electrolytes on the surface of the article and also to provide a "spot-free" dryness, i.e., that no drops or traces of drops remain on the dried objects.

With respect to claim 65:

The prior art apparatus of EP '711 is configured to have air jets wherein a control device 13 can adjust the time which the nozzles are open as well as the frequency for opening the nozzles (paragraph bridging pages 3 and 4 of the translation of EP '711). One of ordinary skill in the art would have recognized that by optimizing the frequency of opening the nozzles, the time at which the nozzles are open for each pulse and the pressure of compressed air fed to the nozzles, the drying time can be optimized accordingly to a desired drying time period for the electroplated article. Furthermore, EP '711 recognizes the desire for short drying periods (last 4 lines of the abstract).

Generally, differences in ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such ranges is critical. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Boesche, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969). Furthermore there is no clear teaching by the instant application that such a range is critical.

With respect to claim 66:

This claim limitation is presented in terms of a function, property or characteristic in relation to the drying process step. The prior art of EP '711 is the same drying apparatus but EP '711 fails to explicitly disclose this function. The prior art apparatus of EP '711 is configured to dry the surface of the electroplated article and reclaim unused

electrolyte. While the teachings of EP '711 are silent as to atomization of water droplets on the article surface, the prior art apparatus in combination with the pulse frequency and pressure of compressed air applied through the nozzles (see paragraph bridging pages 3 and 4 of the translation of EP '711) are expected to cause at least a portion of the water or moisture on the article surface to be atomized (see MPEP § 2112).

With respect to claim 67:

EP '711 teaches of each tubes axial length being 150 mm (15 cm) and that each opening is 10 mm from each other (1 cm). In order for the pulses of air to reach across the axial length of the article and given the spacing arrangement of each air jet opening being 1 cm between jets, each jet and related air pulse would have been optimized to cover 1 square centimeter of the article surface.

Given the nozzle spacing of EP '711 being 1 cm, and that these jets on a given tube are stationary, the diameter of the air pulse from a given jet would have to be generated for at least 1 square centimeter. If the pulses were not optimized in this manner, then the air pulse from adjacent nozzles would not provide a continuous net jet pulse along the axial direction of the tube. This would have left moisture residue in the areas between adjacent nozzles. Thus given a 1 cm spacing between adjacent nozzles, one of ordinary skill in the art would have required that each air pulse from a respective jet generate an air jet stream for 1 square centimeter of the article surface to effectively dry the electroplated layer across the entire axial direction of the article.

The motivation for providing the air jets and pulses of air such that one pulse of air is generated for one square centimeter of said article surface is that it would have provided a net continuous air pulse along the axial extent of the article which would have optimized the drying of the electroplated layer on the article.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Moysan '872 by providing the air jets and pulses of air such that one pulse of air is generated for one square centimeter of said article surface since it would have provided a net continuous air pulse along the axial extent of the article which would have optimized the drying of the electroplated layer on the article.

Response to Arguments

6. Applicant's arguments filed January 24, 2003 have been fully considered but they are not persuasive.

Applicant argues that there is no suggestion to employ pulsating air jets to clean the electroplated article. Applicant acknowledges that EP '711 teaches that it is known to employ pulsating air jets to blow off electroplating liquid from an article.

Applicant's argument fails to address the combination of Moysan '874 in view of EP '711 as is clearly established on the record. One of ordinary skill in the art would have found it obvious to modify the teachings of Moysan '874 by using the pulse drying technique of EP '711 after electroplating since it would have cleaned and dried the electroplated surface and recovered any unplated electrolytes on the plating surface.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 103

7. Claims 1, 2, 4, 5, 7-9, 21-24, 26-36 and 64-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent No. 5,922,478 (Welty) in view of European Patent Application No. 0 486 711 A1 (EP '711) all of record and for the reasons of record.

Welty is drawn to a process of depositing a multi layer coating on at least a portion of an article surface comprising: depositing by electroplating at least one metal or metal alloy containing layer 13 on at least a portion of said article surface, depositing by PVD on at least a portion of said electroplated layer at least one layer (22, 29, 30, 32, 34 in Fig. 1) comprising a material selected from the group consisting of refractory metals or refractory metal alloys as recited the genus of instant claim 1 (see col. 2, ll. 35-40 and col. 4, ll. 16-24 as applied to claim 1).

The electroplating comprises nickel (col. 2, ll. 35-40 as applied to claim 2).

The refractory metal layer can be zirconium, titanium or a zirconium-titanium alloy (col. 4, ll. 11-16 as applied to claim 4).

The refractory metal layer can be a zirconium-titanium alloy (col. 4, ll. 11-16 as applied to claim 5).

The refractory metal compound deposited on the nickel layer can also be a refractory metal alloy compound such as nitrides or oxides (col. 5, ll. 7-20 as applied to claim 7).

The compound can be zirconium nitride (col. 5, ll. 7-20 as applied to claim 8).

The compound can be zirconium nitride (col. 5, ll. 7-20 as applied to claim 9).

The electroplating comprises nickel (col. 2, ll. 35-40 as applied to claim 21).

The refractory metal, refractory metal alloy, refractory metal compound or refractory metal compound layer is deposited by PVD on at least a portion of said electroplated layer (see col. 2, ll. 35-40 and col. 4, ll. 16-24 as applied to claim 22).

The refractory metal layer can be zirconium, titanium or a zirconium-titanium alloy (col. 4, ll. 11-16 as applied to claim 23).

The refractory metal layer can be a zirconium-titanium alloy (col. 4, ll. 11-16 as applied to claim 24).

The refractory metal compound deposited on the nickel layer can also be a refractory metal alloy compound such as nitrides, carbides, carbonitrides, oxides etc. (col. 5, ll. 7-20 as applied to claim 26).

The refractory metal compound can be zirconium nitride (col. 5, ll. 7-20 as applied to claim 27).

The refractory metal compound can be zirconium nitride (col. 5, ll. 7-20 as applied to claim 28).

The electroplating process comprises electroplating a nickel layer 16 on the article to provide at least one electroplated nickel layer and electroplating a chrome

layer 21 directly on the nickel layer 13 (Fig. 1, col. 2, ll. 35-40 and col. 3, ll. 50-54 as applied to claim 29).

The refractory metal, refractory metal alloy, refractory metal compound or refractory metal compound layer is deposited by PVD on at least a portion of said electroplated layer (see col. 2, ll. 35-40 and col. 4, ll. 16-24 as applied to claim 30).

The refractory metal layer can be zirconium, titanium or a zirconium-titanium alloy (col. 4, ll. 11-16 as applied to claim 31).

The refractory metal layer can be a zirconium-titanium alloy (col. 4, ll. 11-16 as applied to claim 32).

A sandwich coating 26 of alternating layers of zirconium or zirconium-titanium alloy and zirconium nitride or zirconium-titanium nitride alloy is deposited over the zirconium or zirconium-titanium alloy (col. 4, ll. 54-59 as applied to claim 33).

A zirconium nitride layer 32 is deposited by PVD over the sandwich layer (Fig. 1 and col. 5, line 57 through col. 6, line 22 as applied to claim 34).

A zirconium-titanium oxide layer 34 is deposited on the zirconium nitride layer 32 by PVD (col. 6, line 37 through col. 7, line 21 as applied to claim 35).

Layer 34 can also be the reaction product of zirconium deposited by PVD (col. 6, ll. 37-59 as applied to claim 36).

The differences between the instant claims and Welty are that Welty fails to explicitly disclose of a step of subjecting the plated layer to pulses of air to dry and clean the article surface (instant claim 1), of providing a drying period for said article surface (claim 64), of a drying period being between 2 and 5 minutes (claim 65), of atomizing

water droplets on the article surface during pulse drying (claim 66), of one pulse of air being generated per square centimeter of article surface (claim 67).

With respect to claims 1 and 64:

EP '711 discloses of a procedure for blowing off liquid from an object by using pulsating compressed air to dispel the liquid (abstract). This reference particularly teaches that this process is advantageously used in plating processes such as electroplating (page 5 of translation) to remove and recover electrolytes and further to provide a "spot-free" dryness, i.e., that no drops or traces of drops remain on the dried objects. Upon removing the unused electrolytes, the object will also be cleaned (as applied to claims 1 and 64).

The timeliness of dry cleaning would have obviously been immediately after deposition of the electroplated layer and prior to any further depositions to clean and dry the surface and recover and unplated electrolytes on the surface.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Welty by incorporating the pulsed air process of EP '711 since it would have provided a means to remove and recover excess electrolytes on the surface of the article and also to provide a "spot-free" dryness, i.e., that no drops or traces of drops remain on the dried objects.

With respect to claim 65:

The prior art apparatus of EP '711 is configured to have air jets wherein a control device 13 can adjust the time which the nozzles are open as well as the frequency for opening the nozzles (paragraph bridging pages 3 and 4 of the translation of EP '711). One of ordinary skill in the art would have recognized that by optimizing the frequency of opening the nozzles, the time at which the nozzles are open for each pulse and the pressure of compressed air fed to the nozzles, the drying time can be optimized accordingly to a desired drying time period for the electroplated article. Furthermore, EP '711 recognizes the desire for short drying periods (last 4 lines of the abstract).

Generally, differences in ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such ranges is critical. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Boesche , 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969). Furthermore there is no clear teaching by the instant application that such a range is critical.

With respect to claim 66:

This claim limitation is presented in terms of a function, property or characteristic in relation to the drying process step. The prior art of EP '711 is the same drying apparatus but EP '711 fails to explicitly disclose this function. The prior art apparatus of EP '711 is configured to dry the surface of the electroplated article and reclaim unused

electrolyte. While the teachings of EP '711 are silent as to atomization of water droplets on the article surface, the prior art apparatus in combination with the pulse frequency and pressure of compressed air applied through the nozzles (see paragraph bridging pages 3 and 4 of the translation of EP '711) are expected to cause at least a portion of the water or moisture on the article surface to be atomized (see MPEP § 2112).

With respect to claim 67:

EP '711 teaches of each tubes axial length being 150 mm (15 cm) and that each opening is 10 mm from each other (1 cm). In order for the pulses of air to reach across the axial length of the article and given the spacing arrangement of each air jet opening being 1 cm between jets, each jet and related air pulse would have been optimized to cover 1 square centimeter of the article surface.

Given the nozzle spacing of EP '711 being 1 cm, and that these jets on a given tube are stationary, the diameter of the air pulse from a given jet would have to be generated for at least 1 square centimeter. If the pulses were not optimized in this manner, then the air pulse from adjacent nozzles would not provide a continuous net jet pulse along the axial direction of the tube. This would have left moisture residue in the areas between adjacent nozzles. Thus given a 1 cm spacing between adjacent nozzles, one of ordinary skill in the art would have required that each air pulse from a respective jet generate an air jet stream for 1 square centimeter of the article surface to effectively dry the electroplated layer across the entire axial direction of the article.

The motivation for providing the air jets and pulses of air such that one pulse of air is generated for one square centimeter of said article surface is that it would have provided a net continuous air pulse along the axial extent of the article which would have optimized the drying of the electroplated layer on the article.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Welty by providing the air jets and pulses of air such that one pulse of air is generated for one square centimeter of said article surface since it would have provided a net continuous air pulse along the axial extent of the article which would have optimized the drying of the electroplated layer on the article.

8. Claims 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welty in view of EP '711 as applied to claims 1-2, 4-5, 7-9, 21-24, 26-36 and 64-67 above, and further in view of U.S. patent No. 5,558,759 (Pudem) all of record and for the reasons of record.

The teachings of Welty and EP '711 have already been discussed above and are incorporated herein.

The refractory metal layer deposited on the chrome layer 21 can be zirconium, titanium or a zirconium-titanium alloy (Welty col. 4, ll. 11-16 as applied to claim 11).

The refractory metal layer deposited on the chrome layer 21 can be zirconium, titanium or a zirconium-titanium alloy (Welty col. 4, ll. 11-16 as applied to claim 12).

The refractory metal layer can be a zirconium-titanium alloy (Welty col. 4, ll. 11-16 as applied to claim 13).

A sandwich coating 26 of alternating layers of zirconium or zirconium-titanium alloy and zirconium nitride or zirconium-titanium nitride alloy is deposited over the zirconium or zirconium-titanium alloy (Welty col. 4, ll. 54-59 as applied to claim 14).

A zirconium nitride layer 32 is deposited by PVD over the sandwich layer (Welty Fig. 1 and col. 5, line 57 through col. 6, line 22 as applied to claim 15).

A zirconium-titanium oxide layer 34 is deposited on the zirconium nitride layer 32 by PVD (Welty col. 6, line 37 through col. 7, line 21 as applied to claim 16).

Layer 34 can also be the reaction product of zirconium deposited by PVD (Welty col. 6, ll. 37-59 as applied to claim 17).

A zirconium nitride layer 32 is deposited over the zirconium or zirconium-titanium alloy layer 30 (Welty Fig. 1 and col. 5, line 57 through col. 6, line 22 as applied to claim 18).

A zirconium oxide or zirconium-titanium oxide layer 34 is deposited over the zirconium layer 32 (Welty col. 6, line 37 through col. 7, line 21 as applied to claim 19).

Layer 34 can also be the reaction product of zirconium deposited by PVD (Welty col. 6, ll. 37-59 as applied to claim 20).

The differences not yet discussed are of: plating a copper film on a portion of an article's surface and subsequently plating a nickel layer on said copper layer and a chrome layer on said nickel layer (instant claim 10).

Pudem teaches of metal finishing processes wherein a first copper plating step is performed and thereafter, to form a brass finish, nickel and then chrome are plated (col. 10, lines 1-19). The advantages of a first copper plating is that it provides a uniform

surface upon which additional layers can be plated (col. 2, ll. 1-5). Thus in depositing a brass finish, Pudem first teaches depositing copper (to provide a uniform surface upon which additional layers can be plated) and thereafter forming a nickel layer and chrome layer sequentially.

The motivation for using copper is to provide a uniform surface upon which additional layers are plated. The motivation for further depositing nickel and chrome is to impart a brass finish to the substrate.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Welty by plating the multilayer structure first with a copper plating layer as suggested in the teachings of Pudem since copper plating provides an adherent coating surface on a substrate to enhance the adherence of subsequently plated materials with the substrate. The combined structure would have improved the decorative and protective characteristics of the article of Welty.

Response to Arguments

9. Applicant's arguments with respect to claims 1, 2, 4, 5, 7-24 and 26-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (703) 305-0635. The examiner can normally be reached on Monday through Thursday from 8:00

a.m. to 5:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan, can be reached on (703) 308-2383. FAX communications should be sent to the appropriate FAX number: (703) 872-9311 for After Final Responses only; (703) 872-9310 for all other responses. FAXES received after 4 p.m. will not be processed until the following business day. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Gregg Cantelmo
Patent Examiner
Art Unit 1745

gc

February 22, 2003